Using a Landscape Level Ecosystem Restoration Planning Tool to Drive Collaborative Planning in the Middle Mississippi River

Brian Johnson - St. Louis District
Mickey Heitmeyer - Greenbrier Wetland Services

US Army Corps of Engineers
St. Louis District®

US Army Corps of Engineers®

Where is the Middle Mississippi River?

US Army Corps of Engineers®

What Does the Middle Mississippi Need?

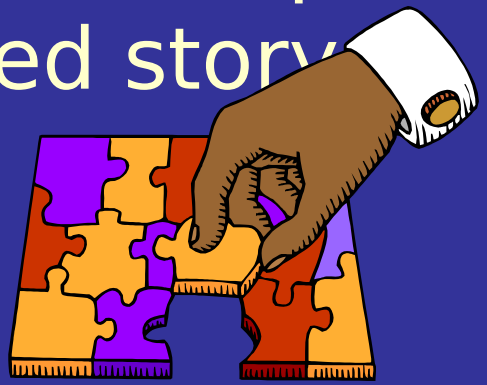
1. We need to better refine and focus our regional vision (get to collective action).
2. We need to collectively identify what the “on the ground” restoration opportunities and needs are (professional judgment based restoration).
3. We need to develop a way to scientifically identify and prioritize preservation and restoration opportunities (science based planning).

US Army Corps of Engineers®

Science Based Planning

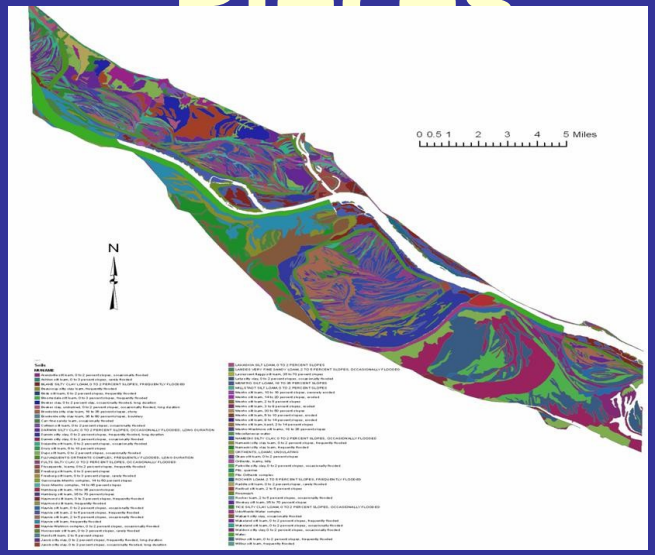
- Decided on a hydrogeomorphic (HGM) based approach

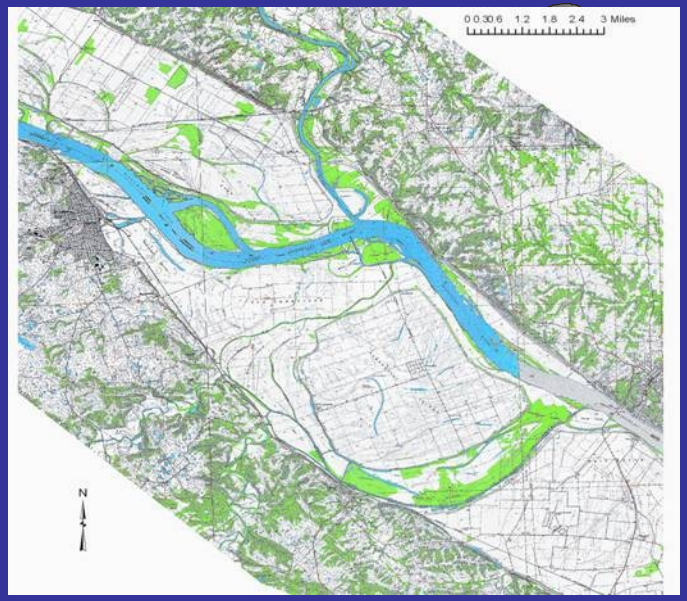
- Together the HGM pieces tell a science based story



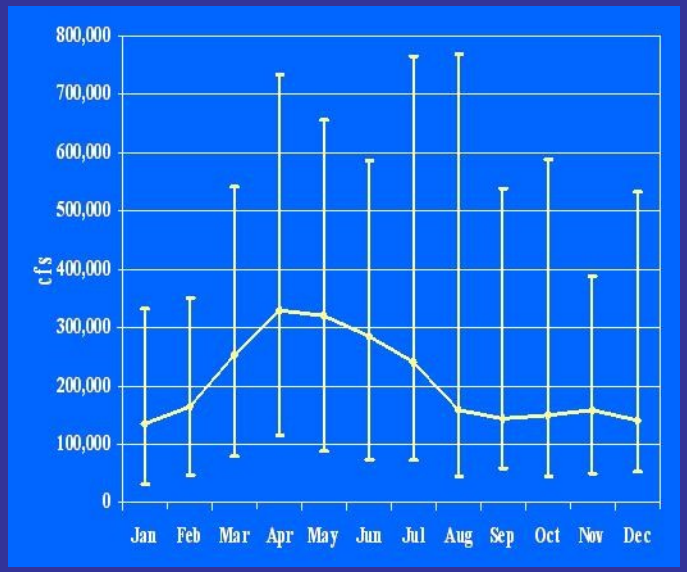
US Army Corps of Engineers®

HGM "Pieces"





- Soils
- Geomorphic surfaces
- Topography
- Climate
- Hydrological "System" (flood frequency)
- Plant and Animal



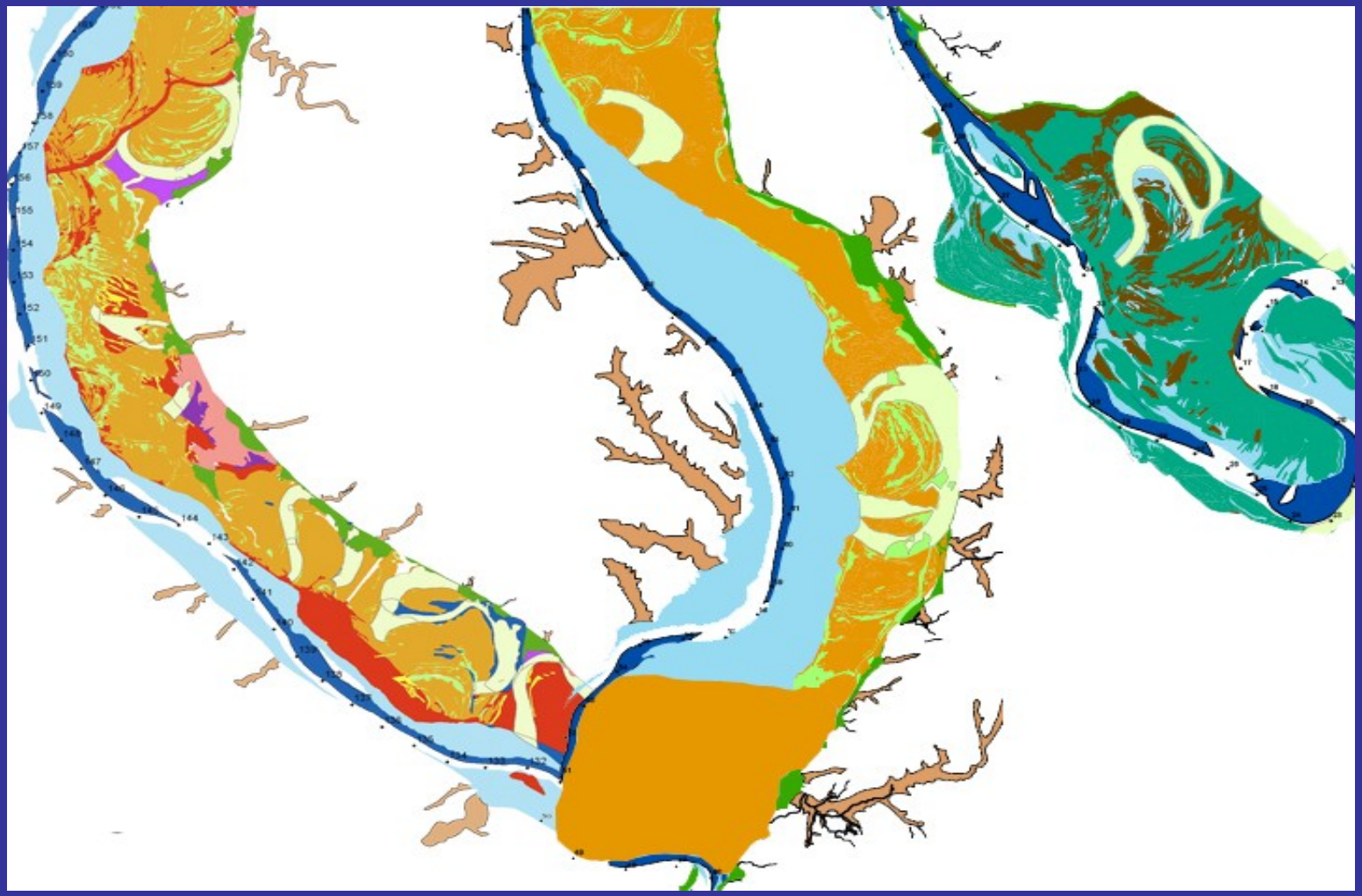
US Army Corps of Engineers®

Hydro Geomorphic Principles

1. Establish what it is you are trying to restore, and manage for (pre-settlement conditions).
2. Identify the current conditions.
3. Determine what the “new” desired state is, or can be (restoration potential).

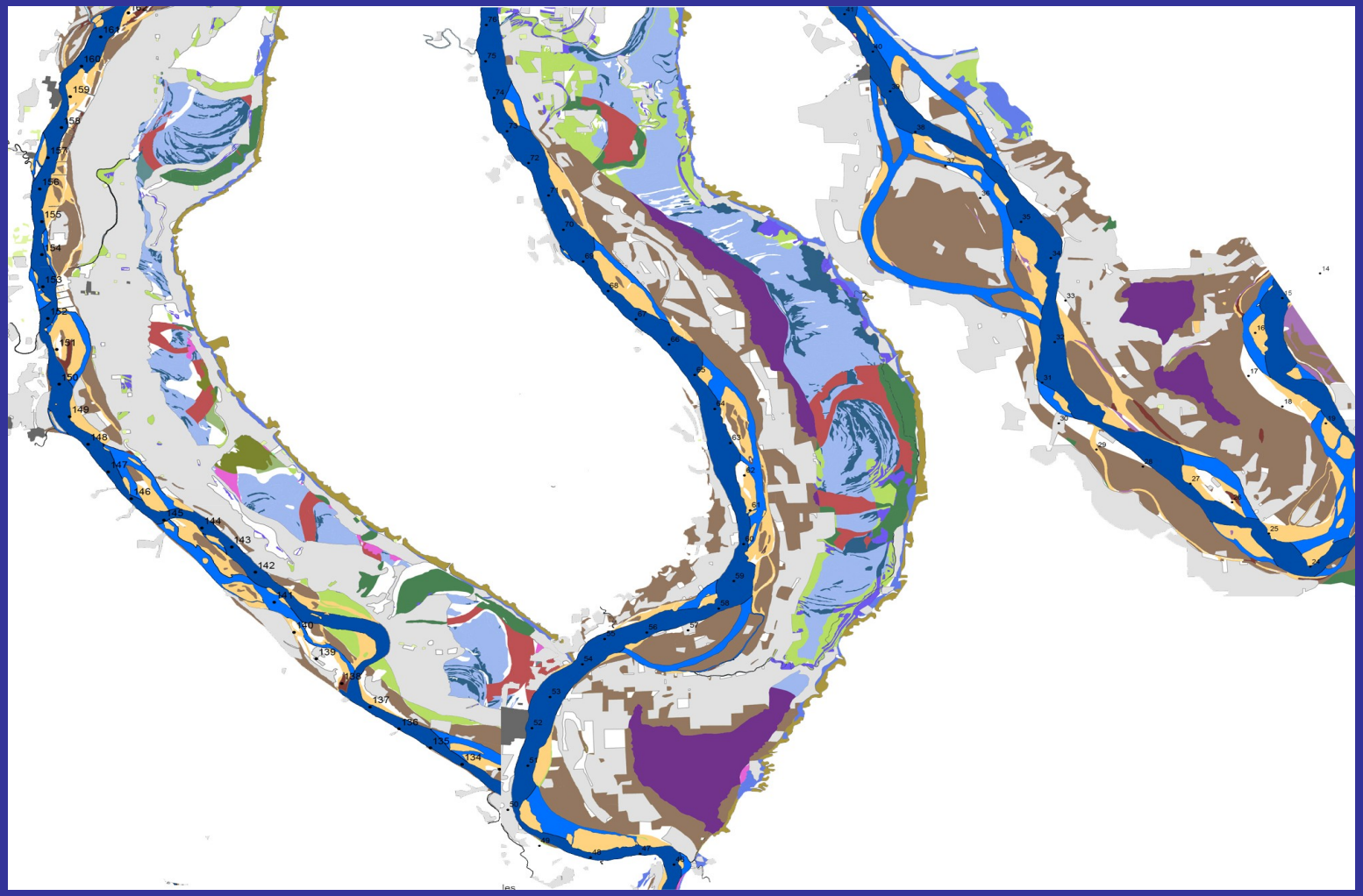
US Army Corps of Engineers®

Pre-settlement Habitat Conditions



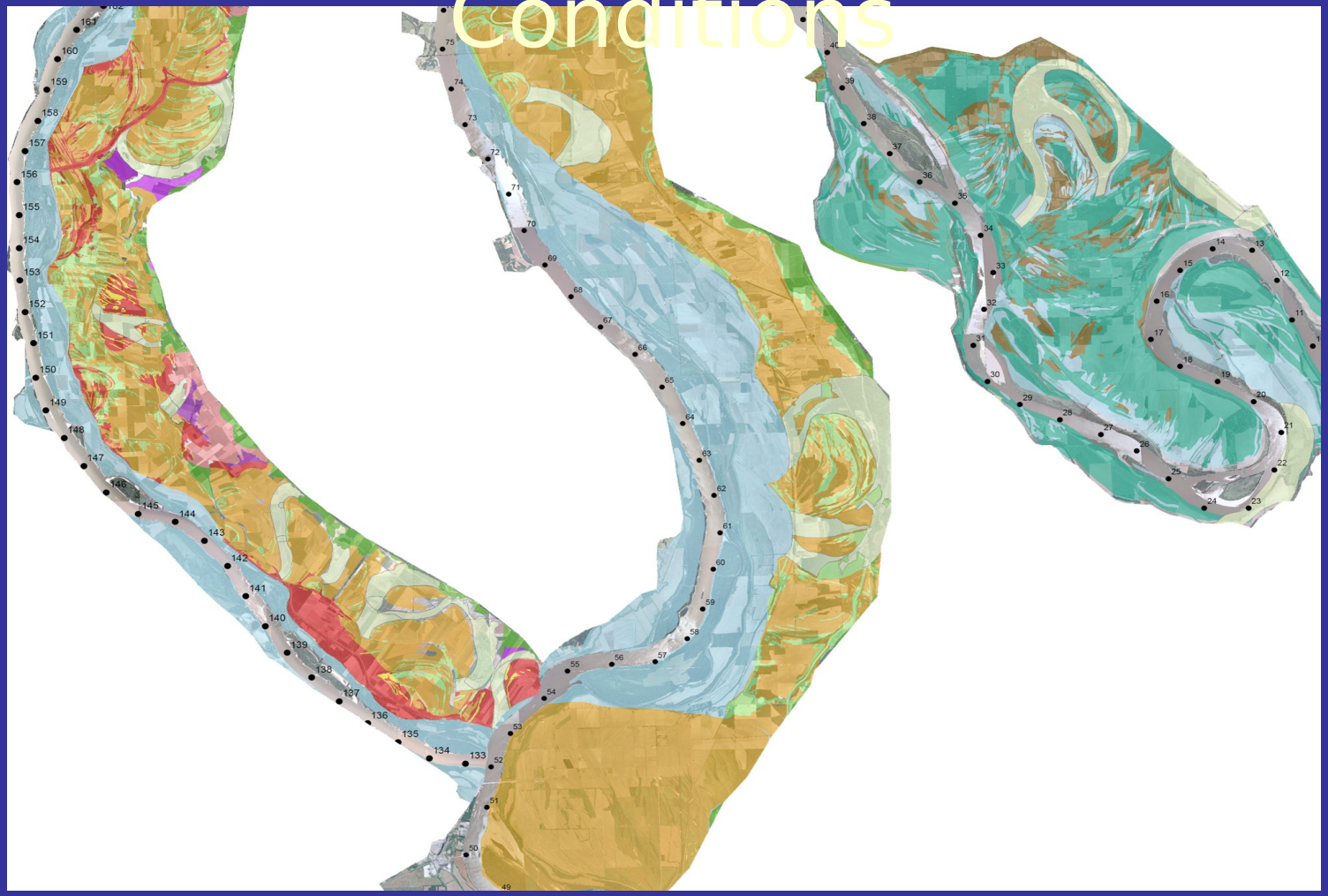
US Army Corps of Engineers®

Existing Habitat Conditions



US Army Corps of Engineers®

Potential Habitat Conditions



US Army Corps of Engineers®

HGM Products

1. Narrative Report
   - "How to" Section
2. GIS data layers and maps
   - Quantified/visualized what we had
   - Quantified/visualized what we have now
   - Quantified/visualized what we could have now
   - Defines where you need to go to get habitat back

US Army Corps of Engineers®

Habitats Conditions

HABITAT	STATUS
River channel and islands	narrower, smaller
Side chutes -	shorter and degraded
Bottomland Lakes	80% lost
Riverfront Forest	40% lost
Floodplain Forest	50% lost
Bottomland Hardwood Forest	60% lost
Slope Forest	>90% lost
Prairie (Bottomland and Mesic)	>90% lost
Savanna	>90% lost

US Army Corps of Engineers®

Using the HGM results to drive collaborative planning

US Army Corps of Engineers®

Three Ways to Use HGM

1. When you already have the land.
   - Design smart restoration which works with the site

2. When you have the potential to impact the region by your actions.
   - Avoiding important and highly limited habitat types

3. When you don't have the land.
   - Use HGM results to help focus future efforts

US Army Corps of Engineers®

Meeting with Regional Groups

Taking the results of the HGM work out to the regional stakeholders

- Agencies with regulatory authority
- Agencies with regional planning authority
- Agencies, NGO's, and regional partnerships with a natural resource management authority or mission
- Agencies and entities that impact natural resources

US Army Corps of Engineers®

Meeting with Regional Groups

Conducting Regional Meetings

- Awareness
- Setting the scene
- Defining areas of common interest
- Establishing regional priorities
- Selecting focus areas
- Focusing collective resources

US Army Corps of Engineers®

Key Takeaway points

- Still learning our lessons
- Strong regional desire for this type of information
  - Filled a gap
  - “Run with it” mentality
- Need to work with pre-established regional groups to help move the efforts forward
  - Built in buy-in
  - Often these groups drive change
  - Reach more people
- Make report and data readily accessible
  - How to section
  - www.midmiss.org

US Army Corps of Engineers®

For more Information

Brian Johnson
Natural Resource Planner
St. Louis District
314-331-8146
Brian.L.Johnson@usace.army.mil

Mickey Heitmeyer
Wetland Scientist
Greenbrier Wetland Services
573-722-3553
mheitmeyer@earthlink.net

www.midmiss.org